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COMPOUNDED CLAY AND CLAY COMPOSITE MATERIAL AND PRODUCTION THEREOF

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Abstract

PROBLEM TO BE SOLVED: To produce a compound clay and a clay composite material capable of uniformly dispersing a clay mineral in a polymer at a molecular level and provide a method for producing both.

SOLUTION: This compounded clay comprises a layer clay mineral 7 dispersed in an infinitely swollen state as a layer unit in matrix molecules 1 having nonpolar side chains 10. The matrix molecules 1 are composed of a polysiloxane or a polyoxyalkylene. Organic onium ions 6 and the matrix molecules 1 are interposed between layers of the layer clay mineral 7. The layer clay mineral 7 is bonded to the organic onium ions 6 through ionic bonding and further to the matrix molecules 1 through hydrogen bonding. The molecular length of the nonpolar side chains 10 in the matrix molecules 1 is same as or larger than that of an organic main chain part of the organic onium ions 6.

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